

King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences

Math - 201 Semester - 061 Quiz # II

Name:

S. No.:

ID:

Maximum Marks: 10

Section:

Time Allowed: 15 Minutes

NOTE: Give the solution of any TWO questions.

1. Show that $\vec{u} \times \vec{u} = \vec{0}$ and $\vec{u} \cdot \vec{u} \neq 0$ for any nonzero vector \vec{u} . (5 Marks)
2. Find the vector component of $\vec{v} = -3\vec{i} - 2\vec{j}$ orthogonal to $\vec{b} = 2\vec{i} + \vec{j}$. (5 Marks)
3. Determine whether the lines L_1 and L_2 are parallel. (5 Marks)

$$L_1 : x = 5 + 3t, \quad y = 4 - 2t, \quad z = -2 + 3t$$

$$L_2 : x = -1 + 9t, \quad y = 5 - 6t, \quad z = 3 + 8t.$$

Solution.